Statement of Work

For

General Materials or Services

Title: Perform Feasibility Study – Alternatives for Replacement of the Existing Radio Fire Alarm Reporter System

Date: 3/10/2022

Revision Number: 0

Requisition Number: 357309

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Table of Contents

1 INTRODUCTION / BACKGROUND

The Department of Energy, Richland Operations Office, (DOE-RL) manages the Hanford Site working toward protecting the workers, public, and environment by further reducing risk, as well as providing the necessary infrastructure for continued safe and effective cleanup operations, access and use. This is accomplished by work performed by contractors and subcontractors, to ensure the safety of Hanford cleanup.

As a Prime Contractor to the U.S. Department of Energy, Hanford Mission Integration Solutions (HMIS) is responsible for providing direct support to the DOE-RL and its contractors with cost effective infrastructure and site services integral and necessary to accomplish the Hanford Site environmental cleanup mission.

HMIS Engineering is responsible for the performance of Engineering-related work in support of the company. As part of executing this scope, HMIS seeks the services of a qualified firm to develop a feasibility/engineering study that will be used to determine the alternatives available for replacement of the existing radio fire alarm reporter (RFAR) system to support continued Hanford Site operations.

The existing RFAR system is a fire alarm "off-premises reporting" system that monitors and automatically sends alarm, supervisory and trouble signals from building fire alarm systems to the Hanford Fire Department (HFD). All RFAR signals are received by the HFD's Monaco Enterprise Inc. D-21 Fire Management System (D21) located at the HFD Dispatch Center and at the backup Dispatch Center in the Federal Building "Emergency Operations Center." The fire alarm signals received are acknowledged by the HFD Dispatcher and emergency response personnel are dispatched to the origin (facility) of the signal.

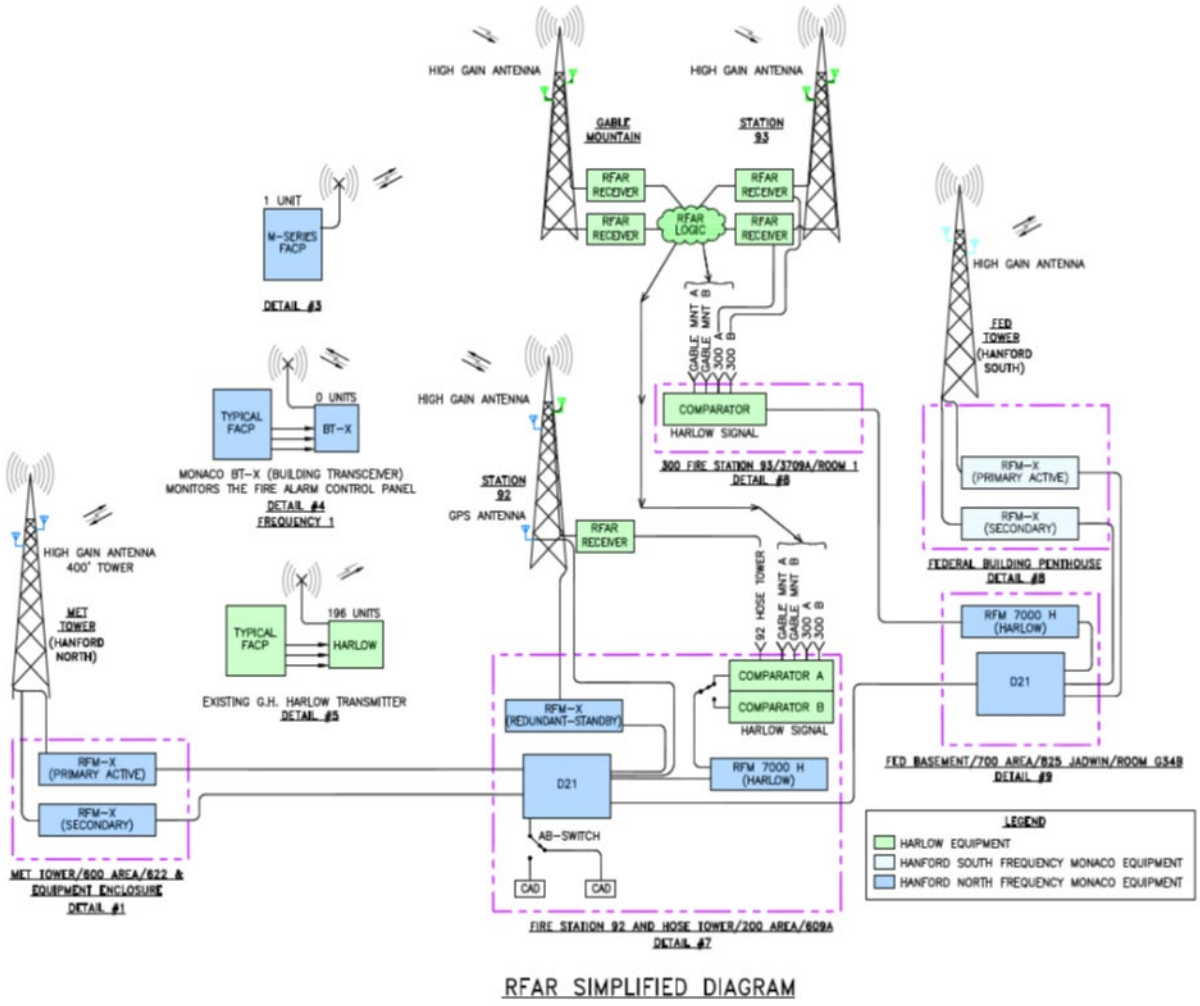
Figure 1 shows a graphical representation of the critical components of the RFAR System in a simplified diagram.

In the fall of 2021, HMIS hosted a Structured Improvement Activity (SIA) to meet with affected Hanford Site stakeholders to brainstorm options for the replacement of the approximately 150 Harlow transmitters across the Hanford Site that are aged, obsolete, and showing signs of failure. The goal of the workshop was to identify possible options to replace the Harlow transmitters and one of the top outcomes of the SIA was to initiate a formal feasibility/engineering study that would determine the feasibility and alternatives to replacing the system. The SIA team identified that replacement of the system would likely have the following benefits:

- Be an NFPA 72-compliant solution.
- Meet current industry standards and include Underwriters Laboratory (UL) listings and other relevant certifications.
- Be nationally recognized, widely available, future-proofed, and have flexible customer support.
- Use contact identification (ID), a universal communications format, not something that is proprietary.
- Include options to use different types of fire alarm reporting (cellular, radio, virtual local area network [VLAN], network, internet, phone line, etc.) along with point-to-point abilities.
- Standardized inspection, testing, and maintenance that would have the potential to reduce long-term carrying costs of the equipment.
- Include full reporting capabilities in that HFD dispatch will receive the actual zone and more information on how/where to respond.
- Compatibility with the Motorola Computer Aided Dispatch (CAD) system.

The current system is described in HNF-61004, Radio Fire Alarm Reporting System Design Description, Revision 0.

Figure 1
Existing System – Radio Fire Alarm Reporter System Simplified Diagram.



1.1 OBJECTIVE

The objective of this Statement of Work (SOW) is to develop a feasibility study by July 30, 2022 that addresses the required key elements described in Section 1.3.

While this statement of work does not include the development of any designs for the replacement of the RFAR infrastructure, the issued feasibility study is expected to form the technical basis for future engineering decisions and designs to implement the recommended replacement system(s).

1.2 DESCRIPTION OF WORK – GENERAL

The subcontractor shall provide technically qualified resources that work as a part of a team under the direct oversight of HMIS. Subcontractor resources shall be responsible for independently planning, organizing, and

performing a wide variety of non-hazardous specialized administrative/technical duties in support of the successful completion of goals and deliverables. Additionally, the subcontractor shall furnish all necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the scope as directed by HMIS

Unless otherwise approved, the subcontractor shall work in accordance with HMIS subcontract requirements, operating policies and procedures and shall be responsible for execution of the work in accordance with the quality standards and requirements specified for assigned project and facility.

Specifically, HMIS requires a subcontractor to provide a feasibility study as described in Section 1.3.

1.3 DESCRIPTION OF WORK – SPECIFIC

The Subcontractor shall provide all aspects of engineering services including management, administration, coordination, and development of documents required to support this study in accordance with the requirements of this SOW.

The Subcontractor shall perform a feasibility study that presents and evaluates the commercially available alternatives for replacing the existing RFAR system in use at Hanford.

Work shall be resourced and planned such that the completed feasibility study is transmitted to HMIS no later than July 30, 2022. A proposed development schedule (including HMIS review time) shall be provided as part of the request for proposal associated with this statement of work. Finalization of the schedule will occur with the selected Subcontractor as part of the kick-off meeting described in Section 10.

NOTE: This SOW includes three (3) tasks described below.

Table 1. SOW Tasks and Descriptions

Task No.	Description
1	Draft Feasibility Study
2	Final – Feasibility Study
3	Present Results of Feasibility Study

Task 1 –Draft Feasibility Study

The scope of this task is to draft the feasibility study, addressing criteria described below, and submit for HMIS review. The content of the study shall be considered a high-quality draft that is ready for review by the client (i.e., HMIS). HMIS will review and provide a consolidated set of written comments that shall be addressed by the Subcontractor as part of finalizing the feasibility study.

Development of the feasibility study shall, <u>at a minimum</u>, address the following criteria:

1. Provide at least three alternatives, including technology, hardware solutions, and reporting method for replacement of the existing RFAR system. Consider all relevant factors including at a minimum the following criteria:
    a. <u>Compliance:</u> Evaluate each alternative for a path to complete code compliance with NFPA 72 (2019), including the communication pathway and receiving station (e.g., proprietary, central, etc.).
    b. <u>Accessibility:</u> Evaluate each alternative for availability of proposed equipment and its ability to interface with existing or future equipment (fire alarm control unity [FACU], communication pathways), proprietary vs. nonproprietary, availability of training, and software, and considerations for customer support.

c. Compatibility: Evaluate each alternative for interaction with existing obsolete fire alarm control units and ability to directly interface with the Motorola HFD Dispatch CAD system.
d. Flexibility: Evaluate each alternative for use of different types of reporting pathways if needed (e.g., cellular, radio, virtual local area network (VLAN), network, internet, phone line, etc.) and the level of detail is available in reporting capabilities.
e. Footprint Reduction: Evaluate each alternative based on its Hanford Site footprint.
f. Estimated Cost and Schedule: Evaluate each alternative for relative costs and implementation activities. Implementation activities shall include at a minimum time to procure, install, test, and turnover phasing.
    i. Note that costs estimated in the feasibility study should only be developed to a rough order of magnitude (ROM) level of precision.
g. Site Interfaces: Evaluate each alternative for interaction complexity with existing systems on site, such as Cyber Security, Hanford Local Area Network (HLAN), and other systems that may be affected.
h. Standardization: Evaluate each alternative for the ability to meet current industry standards, use of a universal communications format, and ensuring all equipment is listed for proposed use as Underwriters Laboratory (UL) and other relevant certifications

2. Identify the positives and negatives of each communication method.

3. With customer input, assign a weighted value to each criteria with relative costs and implementation activities associated with each method, described above.

4. Using the weighted value, compare the alternatives for the best solution.

5. Provide a final recommended solution that considers the long-term needs of the Hanford Site considering all of Hanford's Prime Contractors.

The following document number and tentative title is provided for this study:

HNF-ENG-67688 *Feasibility Study – Alternatives for the Replacement of the Existing Radio Fire Alarm Reporter System*

Subcontractor should feel free to provide an alternate title for the document, if desired.

HMIS will review and provide a consolidated set of written comments that shall be addressed by the Subcontractor. The Subcontractor shall disposition all HMIS comments provided for the Task 1 deliverable and submit disposition to HMIS for review/approval as part of the deliverable for Task 2.

Task 2 – Final Feasibility Study

The scope of this task is to finalize the feasibility study and fully respond to/address the consolidated comments that were provided by HMIS (described in Task 1).

HMIS will review the dispositions to the comments and verify incorporation (as appropriate) in the revised feasibility study. Any new comments on the revised feasibility study will be consolidated and submitted to Subcontractor and shall be addressed by the Subcontractor as part of completing the engineering study.
The Subcontractor shall disposition all HMIS comments provided for Task 2 deliverables and submit disposition to HMIS for review/approval. Task 2 shall not be considered complete until the comment dispositions are approved by the HMIS Buyers Technical Representative (BTR).

Task 3 – Present Results of Feasibility Study

Present the results of the feasibility study. See Section 10, Meetings, for specific details.

2 DELIVERABLES/SUBMITTALS

2.1 Deliverables

Will deliverables be required to be furnished by the Subcontractor: Yes

2.2 Submittals

The SOW requires the submittal of Subcontractor Information and the following items apply:

- Submittals/deliverables are identified in Appendix A, Submittal Register. The Subcontractor shall include the Contract Specialist and Buyer's Technical Representative (BTR) on each transmittal.
- The Subcontractor submittals identified on the Submittal Register shall be submitted by the Subcontractor using the Contractor Document Submittal Form (CDSF)

  See: *http://www.hanford.gov/pmm/page.cfm/Construction*.
- Subcontractor information shall be submitted in either hard copy or electronic format (If electronic, it must be viewable using either Microsoft® Windows®, Microsoft® Office, or Adobe® Acrobat® software).

3 PLACE OF PERFORMANCE

Will work be performed on the Hanford site: No. Click or tap here to enter text.

3.1 Onsite Work Location/Potential Access Requirements

The primary work location under this subcontract shall be the vendor's place of business. Project meetings and/or field walk downs may be performed on the Hanford Site for the purpose of facilitating the completion of the work scope.

3.2 Site Access And Work Hours

Hanford personnel at the Hanford Site work a standard 4/10 schedule. The standard work week consist of ten (10) hours of work between 6:00 a.m. and 4:30 p.m. with one-half hour designated as an unpaid period for lunch, Monday through Thursday.

Work performed outside normal operating hours shall be coordinated and/or approved through the BTR and/or the Contract Specialist prior to performing the work.

3.3 Badging

For any on-site work, see On-Site Services Special Provisions for details. The subcontractor shall wear a Buyer issued security badge identifying themselves. A minimum of two (2) working days advance notice is needed for site badging. Subcontractor employees will be required to submit to vehicle searches and not personally carry or transport certain prohibited articles.

4 REQUIREMENTS

The requirements listed below are to identify specific standards the subcontractor and subcontractor personnel will be obligated to work to in support of this statement of work.

After award and only when necessary, the Subcontractor may submit a formal request for clarification or information by completing a *Request for Clarification or Information (RCI) form* (Site Form #A-6003-063). Any submitted forms should be submitted to the Project Document Control, with copies to the BTR and the Contract Specialist.

4.1 Engineering Requirements

Engineering requirements applicable: Yes

Table 1. Applicable Engineering Codes and Standards:

	Number	Title
1.	NFPA 72 (2019)	National Fire Alarm and Signaling Code

4.2 Environmental, Safety, and Health Requirements

The Subcontractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The Subcontractor shall comply with and assist the Buyer in complying with environmental and safety requirements of all applicable laws, regulations, and directives.

The subcontractor shall exercise a degree of care commensurate with the work and the associated hazards. The Subcontractor shall ensure that management of environmental and safety functions and activities is an integral and visible part of the Subcontractor's work planning and execution processes. As a minimum, the Subcontractor shall:

- Thoroughly review the defined scope of work;
- Identify hazards and environmental and safety requirements;
- Analyze hazards and implement controls;
- Perform work within controls; and
- Provide feedback on adequacy of controls and continue to improve safety management.

The Subcontractor shall flow down all environmental and safety requirements to the lowest tier Subcontractor performing work on the Hanford site commensurate with the risk and complexity of the work.

Prior to start of work the Subcontractor shall work with the HMIS BTR to do a Job Hazard Analysis (JHA).

All Subcontractor and sub-tier employees shall have completed OSHA Hazard Communication training that meets the requirements of HMIS-PRO-SP-13299, *Hazard Communication*. See HMIS-PRO-SP-10468, *Chemical Management Process*, for more information.

Subcontractors and its lower-tier subcontractors shall be responsible to complete an Employee Job Task Analysis (EJTA) in accordance with HMIS-PRO-SP-11058 for any of the following situations:

- For any subcontractor employee who will be on the Hanford Site for more than 30 days in a year.
- For any subcontractor employee who may potentially be exposed to hazards (e.g. radiological, beryllium, hazardous wastes, noise) while performing in accordance with the subcontract statement of work.

- For any subcontractor employee enrolled in a medical or exposure monitoring program required by 10 CFR 851, and/or any other applicable federal, state or local regulation or other obligation.

If any of the above conditions are met, the Subcontractor and its lower-tier subcontractor employee is to have a current approved EJTA prior to that employee beginning work on the Hanford Site.

Buyer's Safety and Health Procedures are available on the internet at https://hmis.hanford.gov/page.cfm/SubcontractorForms/Construction. The documents on this site are kept current and are available for Subcontractors and lower-tier Subcontractor use.

Unique or specific requirements: **No**

4.3 Quality Assurance Requirements

The work activities for this Statement of Work (SOW) has been designated as a Quality Level G - Q Level 0 - GS. The subcontractor shall be responsible for performing quality workmanship and shall conduct the quality control measures necessary to ensure work conforms to referenced codes and standards, and other requirements defined in this SOW.

5 ACCEPTANCE CRITERIA

The content of the feasibility study will be assessed for compliance with the criteria identified in the description of Task #1 in Section 1.3 as part of the HMIS' review of the draft product. The minimum criteria established in the task description must be addressed in the study.

6 CONFIGURATION MANAGEMENT

6.1 Configuration Management Requirements

The subcontractor shall maintain configuration management of the feasibility study until it is submitted as a final product to HMIS. No other configuration management requirements are applicable to this statement of work.

6.2 Applicable Standards

See Section 4.1.

6.3 Verification/Hold Points

Not applicable.

7 QUALIFICATIONS

The Subcontractor shall ensure that its personnel meet and maintain the appropriate training, qualifications, and certification requirements to perform the work as specified in this SOW. The subcontractor is expected to provide appropriately trained and qualified staff to perform the type of work associated with executing this scope of work.

The following qualifications are required:

- The Lead Author on this feasibility study shall be a degreed engineer from an accredited institution.
- Key personnel, including the Lead Author, assigned to this task shall have prior experience in the

development of complex engineering studies with specific experience associated with fire protection alarm and reporting systems (e.g., possess NICET III qualifications with a minimum of 5 years of fire alarm installation and maintenance experience).

The following qualifications are desired:

- The Lead Author on this feasibility study holds a professional engineering license that is active in the State of Washington.

The Subcontractor shall provide qualified personnel throughout the period of performance of the Subcontract. Subcontractor shall be responsible for ensuring its personnel meet and/or maintain current and valid training requirements, certifications and are fully capable to complete the duties described through the entirety of the Subcontract period of performance.

8 SPECIAL REQUIREMENTS

Not applicable.

8.1 Training

All Subcontractor personnel working on this scope of work shall complete Hanford Site Orientation (HSO) (sent to the Subcontractor at their location).

8.2 Use of Government Vehicles

There is no anticipated need for any Subcontractor employees to use a Government-furnished vehicle in the performance of this statement of work. The Subcontractor's employees, therefore, are specifically prohibited from driving any Government-furnished vehicles under the performance of this statement of work unless this statement of work is formally so modified by the parties and the employee(s) will present a valid driver's license to the BTR for review.

8.3 Government Property

Government Property is not anticipated to be furnished to or acquired by Subcontractor under this SOW.

8.4 Hanford System Access Requirements

The following systems shall be utilized to perform the work described. For those systems which HMIS will be responsible for (hereby HMIS Operated System), HMIS will operate, manage, maintain and authorize access for Subcontractor personnel. The Subcontractor shall identify each of its personnel who will require access to the HMIS operated system.

For those systems which the Subcontractor shall be responsible for (hereby Subcontractor Operated System), The Subcontractor shall be responsible for the operation, management, maintenance, and access authorization for these systems.

HMIS personnel shall have unlimited access to the below named Subcontractor Operated Systems, through the period of performance of the Subcontract.

Table 4. Systems

	System Description	HMIS Operated System *(Yes or No)*	Subcontractor Operated System *(Yes or No)*
	N/A	N/A	N/A

8.5 Electrical Components

Not applicable.

8.6 Section 508 of Rehabilitation Act Applicability

Section 508 of the Rehabilitation Act requires federal agencies to develop, procure, maintain, and use information and communications technology (ICT) that is accessible to people with disabilities - regardless of whether or not they work for the federal government. Section 508 requires federal agencies to make their ICT such as technology, online training, and websites accessible for everyone. This means that personnel with disabilities are able to do their work on the accessible computers, phones and equipment in their offices, take online training or access internal website to locate needed information.

Not applicable.

9 ACCESS AUTHORIZATION/CLEARANCE REQUIREMENTS

The scope of work will not require access authorization (security clearance).

10 MEETINGS

10.1 Meetings

After subcontract award, the subcontractor shall participate in a Project Kickoff Meeting, which may be a conference call, an internet meeting, or a meeting to be held at HMIS Site. The time, date, and agenda for the meeting will be provided to the subcontractor by HMIS.

The subcontractor shall interface with various HMIS (and other) organizations through HMIS's Contract Specialist (or designated BTR for in-scope work), as required, or at points and frequency determined by the Contract Specialist. The person or persons designated by the subcontractor to attend all meetings shall have all required authority to make decisions and commit subcontractor to technical decisions made during meetings.

HMIS will issue meeting notices and prepare an agenda and minutes for each meeting addressed in this Section. When applicable, minutes will identify action items, assigned actionees, and due dates.

- KICKOFF MEETING - Before start of the Work, HMIS will conduct a conference at a time and Hanford Site location agreed to by Subcontractor and HMIS. Invited attendees will include HMIS, Subcontractor, key lower tier subcontractors and others having an interest in the Work. Purpose of the conference is the coordination of Work start up and familiarization of project participants with the Work.

- ENGINEERING STUDY AND OUTLINE MEETING – Purpose of this meeting is to ensure a clear understanding of the work to be performed and to reach agreement on the outline of the feasibility study and the development schedule. The subcontractor shall propose an outline for the feasibility study that will appropriately present, organize, and provide the conclusions and recommendations reached from conducting

the study. Any additional documents or information that are needed by the Subcontractor to complete the study shall be identified to HMIS in this meeting so that they can be provided, if available.

- PROGRESS MEETINGS - HMIS may conduct a progress meeting at time and Hanford Site location determined by HMIS. Invited attendees may include HMIS, Subcontractor and key subcontractors. At the progress meeting, Subcontractor may be requested to submit a written report showing actual man-hours expended versus planned and scheduled progress versus actual progress giving details of Work completed in relation to the approved schedule, together with a two (2) week "look ahead" which provides details of how the Work will be completed.

- PRESENT RESULTS OF FEASIBILITY STUDY – Subcontractor will develop and deliver a presentation of the feasibility study to HMIS personnel and DOE stakeholders. HMIS will schedule the meeting in coordination with the Subcontractor (including a determination of the meeting format --- in-person or video teleconference). The Subcontractor shall be prepared to answer questions from the meeting attendees on the content of the study. At the conclusion of the presentation, the Subcontractor shall transmit the presentation materials for information.

- The purpose of all meetings is the exchange of Work-related information.

11 INTERFACE/NOTIFICATIONS

A. A BTR will be designated for the subcontract/ subcontract release.

B. Designation of BTR

The BTR is responsible for monitoring and providing technical guidance for this subcontract and should be contacted regarding questions or problems of a technical nature. The BTR is also responsible for appropriate surveillance of the subcontractor's representative while on site. In no event, however, will an understanding or agreement, modification, change order, or any deviation from the terms of this subcontract be effective or binding upon HMIS unless formalized by proper subcontract documents executed by the Contract Specialist prior to completion of this subcontract. On all matters that pertain to the subcontract terms, the subcontractor shall contact the Contract Specialist specified within this subcontract. When in the opinion of the subcontractor, the BTR requests or directs efforts outside the existing scope of the subcontract; the subcontractor shall promptly notify the Contract Specialist in writing. The BTR does not possess any explicit, apparent or implied authority to modify the subcontract. No action should be taken until the Contract Specialist makes a determination and/or modifies the contract.

C. The work will be inspected daily/periodically by the BTR.

D. The subcontractor shall immediately notify the field Contract Release BTR (who will contact HMIS Safety) of any injuries or incidents; to include damage to subcontractor-owned property or equipment. The subcontractor will follow this up within 24 hours with a written explanation to the Contract Specialist of the occurrence.

E. In the event that there is an abnormal or unusual situation associated with this contract work scope, the subcontractor is to immediately contact the BTR. If, after several attempts, the subcontractor is unable to contact either the BTR or the Contract Specialist, the Contractor is to contact HMIS Occurrence Notification Center at (509) 376-2900, which is available 24 hours a day, seven days a week, and provide them with: Contract Number, Contract Specialist's name, BTR's name and a short summary of the abnormal or unusual situation. If after making contact with HMIS, the subcontractor is advised to suspend activities, the subcontractor is not to proceed until such direction to proceed has been expressly issued by the Contract Specialist. If there is an emergency situation, the subcontractor is to make the appropriate immediate emergency call to 911 or 373-0911 for cell phones and then make the notifications to HMIS as set forth herein.

F. Prior to work in the field, subcontractor shall ensure each employee has been cleared by HMIS and verify all training is complete in accordance with this statement of work.

12 APPENDICES

Appendix A: Submittal Register